aeromet

SEASONAL PROGRESS REPORT NO. 7
for the period
September, October, and November 1977

to

ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 Lincoln St., Suite 900
Denver, CO 80203

Contract No. 68-01-1946

11-a-11-b

aeromet inc.

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TULSA, OKLAHOMA 74145

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by

Aeromet, Inc.
P.O. Box 45447
Tulsa, OK 74145

1.0 INTRODUCTION

Low level temperature and wind data were collected for the fall seasonal report at the U-a/U-b Tract 5 miles south of Bonanza, Utah for the period September 1-26 and at Bonanza, Utah for the period September 28 through November 31, 1977.

The data were collected using a 30 gm helium filled pilot balloon with a temperature sonde attached, a single theodolite and a TSR-2 receiver/recorder twice a day every other day. The observations were scheduled ½ hour after sunrise and at 1400L.

The pilot balloon had an ascent rate of 500 ft/min and was tracked by a single theodolite for 12 minutes with the azimuth and elevation angles recorded every 30 seconds on a cassette tape recorder. The tape was transcribed to a pilot balloon form after the observation.

The temperature sonde operated at 403 MHz and the signal was received by a ground plane antenna at least 16 ft AGL which was attached to the Aeromet, Inc. TSR-2 receiver/recorder. The TSR-2 receiver has a built-in Rustrak strip chart recorder and the temperature was recorded within the range from -50°C to +50°C. A baseline temperature calibration was performed with each T-Sonde by the adjustment of the recorded temperature to match the thermometer measured temperature next to the transmitting sonde. Once the calibration check was finished the balloon was released with the sonde attached and the temperature was recorded for at least 20 minutes. At the completion of each observation the data were mailed to Aeromet, Inc.

2.0 DATA SUMMARY

2.1 Mixing Layer Height

The average mixing layer height was computed for the morning and afternoon based on the morning and 1400L temperature soundings. The balloon release ½ hour after sunrise is near enough to the minimum temperature to assume the correctness of the calculated mixing layer heights. The afternoon balloon release is generally not at the time of maximum heating and the user of the mixing layer height data must be aware that minor changes in the calculated values can be expected. Without equipping the field sites with minimum/maximum thermometers the extrapolation of the afternoon data cannot be justified in establishing a data base for statistical analysis. The approximation of the afternoon maximum temperature would be a "calculated guess" for there are: 1) local effects which are to be determined and would be filtered out with extrapolation, 2) mountain effects which alter the lower 1500m (e.g. downslope effects), and 3) meteorological effects which can alter the expected change in the sounding (e.g. advection, moisture, etc.).

It is felt that to better define the mixing layer height a variety of "heat island" effects should be viewed. The rigorous method would be to define 15 "heat island" effects ranging from 0 to 14°C and let the user decide which would best serve his needs. However, for this analysis 0°, +5° and +10° "heat island" effects were considered.

A summary of the average mixing layer heights calculated with the 0°, +5° and +10° "heat island" effects at the U-a/U-b Tract for the fall season of September, October and November 1977 are included in the report. The percent of occurrence of the average height within 250m increments above ground level is given in tabular form. The total number of soundings included in the sample populations are listed in the table.

2.2 Stability and Inversion Classification

The temperature and wind data were edited to remove data felt to cause anomalous results in the stability and inversion classification schemes. Only the stations listed prior to the table classifying the inversions were used in the calculations.

The temperature data are processed to produce a seasonal summary of inversion layers and lapse rates within the inversions and from the inversion base to the surface by means of the Holzworth classification scheme for inversions (Holzworth, G. C., 1974: "Climatological Data on Atmospheric Stability in the United States" paper presented at the American Meteorological Society Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974, Santa Barbara, California.)

The temperature and wind data are processed together to produce an average bivariate frequency distribution of wind direction versus wind speed represented in the 500m layer adjacent to the ground for the summer season. The distribution is presented by the six Pasquill stability classes (A-F) and a summary independent of stability. If the $\Delta T/100m$ criterion is met but the wind speed criterion is not met, then the wind data are checked against the criterion for the next stability class,

STABILITY CLASS	ΔT (°C/100m)	WIND SPEED ($m\ s^{-1}$)
A	<-1.9	≤ 2
B	-1.9 - -1.7	≤ 5
C	-1.7 - -1.5	≤ 6
D	-1.5 - -0.5	ALL SPEEDS
E	-0.5 - 1.5	≤ 5
F	>1.5	≤ 3

always cascading to the D stability class. Once the wind speed criterion is met the data are classified under the new stability class even though now the lapse rate exceeds the class criterion. For example, if the $\Delta T/100m$ value is 1.7 and the wind speed is 7 $m\ s^{-1}$, the lapse rate criterion is met for the stability class F, however the wind speed criterion is exceeded. The wind speed is greater than the 5 $m\ s^{-1}$ maximum limit for class E but falls within the criterion of class D, which includes all wind speeds. As a result the observational data with a ΔT value of 1.7°C/100m and a wind speed value of 7 $m\ s^{-1}$ are classified under stability class D, not class F.

The data are also punched on computer cards in a format compatible with the STAR PROGRAM of the National Climatic Center, NOAA, U.S. Department of Commerce. A description of the punched output can be found in the Monthly Progress Reports.

AVERAGE MIXING LAYER HEIGHT
Utah U-a/U-b Tract
SEASONAL: September, October, and November 1977

MIXING LAYER HEIGHT (Height in meters)	PERCENT OF OCCURRENCE					
	MORNING			AFTERNOON		
	0°	+5°	+10°	0°	+5°	+10°
surface	80.6			9.1		
1 - 250m	19.4	62.8	5.7	39.4		
251 - 500m		11.4	8.6	15.2	3.0	
501 - 750m		2.9	31.4		3.0	3.0
751 - 1000m		5.7	8.6	3.0	9.1	
1001 - 1250m		8.6	5.7	9.1		
1251 - 1500m		2.9	5.7	12.1	12.1	3.0
1501 - 1750m			5.7	6.1	6.1	3.0
1751 - 2000m			5.7		9.1	3.0
>2000m		5.7	5.7	3.0	45.4	45.5
None defined			17.2	3.0	12.1	42.4
TOTAL NUMBER	36	35	35	33	33	33

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5269

DATE 09/02/77 TIME 05:45MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	419.	1.09	0.0

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5279

DATE 09/02/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
1319.	1471.	0.18	-0.98

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5654

DATE 09/04/77 TIME 05:46MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
76.	114.	0.0	-0.36

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5664

DATE 09/04/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
310.	348.	0.0	-1.33

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5662

DATE 09/06/77 TIME 05:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	991.	0.56	0.0

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5660

DATE 09/06/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
306.	344.	0.0	-1.15

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5663

DATE 09/08/77 TIME 05:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	267.	1.55	0.0

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5659

UTAH UADB ELEV 1585 METERS SOUNDING ID 5659

DATE 09/08/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	76.	0.55	0.0

UTAH UADB ELEV 1585 METERS SOUNDING ID 5674

DATE 09/10/77 TIME 05:52MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	495.	0.91	0.0

UTAH UADB ELEV 1585 METERS SOUNDING ID 5672

DATE 09/10/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SFC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-1.84
100.	250.	-1.03
250.	500.	-0.86
500.	750.	-1.04
750.	1000.	-1.11
1000.	1500.	-0.98

UTAH UADB ELEV 1585 METERS SOUNDING ID 5658

DATE 09/12/77 TIME 05:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	267.	1.11	0.0

UTAH UADB ELEV 1585 METERS SOUNDING ID 5656

DATE 09/14/77 TIME 05:55MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	343.	1.65	0.0

UTAH UADB ELEV 1585 METERS SOUNDING ID 5673

DATE 09/14/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
1414.	1490.	0.36	-1.06

UTAH UADB ELEV 1585 METERS SOUNDING ID 5657

DATE 09/16/77 TIME 05:55MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M

UTAH UADB ELEV 1585 METERS SOUNDING ID 5659

DATE 09/08/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	76.	0.55	0.0

UTAH UADB ELEV 1585 METERS SOUNDING ID 5674

DATE 09/10/77 TIME 05:52MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	495.	0.91	0.0

UTAH UADB ELEV 1585 METERS SOUNDING ID 5672

DATE 09/10/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SFC.

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-1.84
100.	250.	-1.03
250.	500.	-0.86
500.	750.	-1.04
750.	1000.	-1.11
1000.	1500.	-0.98

UTAH UADB ELEV 1585 METERS SOUNDING ID 5658

DATE 09/12/77 TIME 05:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	267.	1.11	0.0

UTAH UADB ELEV 1585 METERS SOUNDING ID 5656

DATE 09/14/77 TIME 05:55MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	343.	1.65	0.0

UTAH UADB ELEV 1585 METERS SOUNDING ID 5673

DATE 09/14/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
1414.	1490.	0.36	-1.06

UTAH UADB ELEV 1585 METERS SOUNDING ID 5657

DATE 09/16/77 TIME 05:55MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5657

DATE 09/16/77 TIME 05:55MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	535.	0.98	0.0

****

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5653

DATE 09/18/77 TIME 05:59MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	190.	1.49	0.0

****

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5655

DATE 09/18/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
125.	170.	0.0	-1.57

****

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5670

DATE 09/20/77 TIME 06:01MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	419.	1.99	0.0

****

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5668

DATE 09/22/77 TIME 06:03MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	419.	1.11	0.0

****

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5666

DATE 09/22/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
1359.	1551.	0.44	-0.73

****

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5676

DATE 09/24/77 TIME 06:05MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	619.	1.57	0.0

****

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5667

DATE 09/24/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5667

DATE 09/24/77 TIME 13:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
229.	267.	0.0	-0.90

****

UTAH UAUB ELEV 1585 METERS SOUNDING ID 5671

DATE 09/26/77 TIME 06:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	114.	1.02	0.0

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5665

DATE 09/28/77 TIME 14:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SFC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-1.53
100.	250.	-1.05
250.	500.	-0.84
500.	750.	-1.04
750.	1000.	-0.96
1000.	1500.	-0.81

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 0

DATE 09/30/77 TIME 07:15MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	114.	1.13	0.0

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5686

DATE 09/30/77 TIME 14:15MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SFC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-0.24
100.	250.	-0.76
250.	500.	-0.39
500.	750.	-0.53
750.	1000.	-0.97
1000.	1500.	-0.92

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5687

DATE 10/02/77 TIME 08:20MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	648.	0.69	0.0

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5677

DATE 10/03/77 TIME 13:45MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

UTAH UAUM ELEV 1676 METERS SOUNDING ID 5677

DATE 10/02/77 TIME 13:55MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SFC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-1.37
100.	250.	-0.83
250.	500.	-1.02
500.	750.	-0.99
750.	1000.	-1.02
1000.	1500.	-0.98

UTAH UAUM ELEV 1676 METERS SOUNDING ID 0

DATE 10/04/77 TIME 07:20MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
38.	571.	1.17	-1.25

UTAH UAUM ELEV 1676 METERS SOUNDING ID 5688

DATE 10/04/77 TIME 14:08MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
156.	195.	1.17	-1.08

UTAH UAUM ELEV 1676 METERS SOUNDING ID 5699

DATE 10/06/77 TIME 06:49MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	503.	0.35	0.0

UTAH UAUM ELEV 1676 METERS SOUNDING ID 5681

DATE 10/06/77 TIME 14:03MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
38.	76.	0.0	-0.93

UTAH UAUM ELEV 1676 METERS SOUNDING ID 0

DATE 10/09/77 TIME 07:35MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	114.	4.32	0.0

UTAH UAUM ELEV 1676 METERS SOUNDING ID 5679

DATE 10/08/77 TIME 14:04MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5679

DATE 10/08/77 TIME 14:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
297.	335.	0.0	-1.45

UTAH UAUB ELEV 1676 METERS SOUNDING ID 0

DATE 10/10/77 TIME 14:35MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
38.	76.	3.62	-0.73

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5686

DATE 10/12/77 TIME 07:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	571.	0.91	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5689

DATE 10/12/77 TIME 13:59MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
1257.	1295.	0.0	-1.15

UTAH UAUB ELEV 1676 METERS SOUNDING ID 0

DATE 10/15/77 TIME 07:30MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	495.	1.06	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 0

DATE 10/15/77 TIME 14:15MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
419.	457.	0.0	-0.65

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5692

DATE 10/17/77 TIME 08:50MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	762.	0.37	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 0

DATE 10/17/77 TIME 13:5[illegible]MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
279.	431.	0.12	-0.94

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5790

DATE 10/21/77 TIME 07:55MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	38.	0.0	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 0

DATE 10/21/77 TIME 13:5[illegible]MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
642.	718.	0.25	-0.87

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5699

DATE 10/27/77 TIME 08:06MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	610.	0.81	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5689

DATE 10/27/77 TIME 15:07MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
169.	267.	0.46	-1.30

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5756

DATE 10/29/77 TIME 07:45MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	267.	0.94	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5727

DATE 10/31/77 TIME 07:46MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
114.	190.	0.13	-1.25

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5734

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5734

DATE 10/31/77 TIME 14:09 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
1095.	1171.	0.64	-1.00

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5728

DATE 11/01/77 TIME 07:37 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	152.	2.09	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5725

DATE 11/01/77 TIME 14:09 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
1163.	1355.	0.82	-1.12

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5744

DATE 11/03/77 TIME 07:30 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	762.	0.71	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5743

DATE 11/03/77 TIME 14:47 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
533.	571.	0.0	-0.37

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5751

DATE 11/05/77 TIME 07:17 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	152.	0.98	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5752

DATE 11/05/77 TIME 13:59 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	38.	0.48	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5748

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5752

DATE 11/05/77 TIME 13:59 MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	38.	0.48	0.0

UTAH UAUB ELEV 1376 METERS SOUNDING ID 5748

DATE 11/07/77 TIME 07:09MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
152.	274.	0.55	-2.12

UTAH UAUB ELEV 1776 METERS SOUNDING ID 5749

DATE 11/07/77 TIME 14:01MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
152.	274.	0.55	-2.12

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5732

DATE 11/09/77 TIME 07:35MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
38.	152.	1.96	-5.12

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5730

DATE 11/09/77 TIME 14:03MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
1147.	1338.	0.88	-1.01

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5747

DATE 11/11/77 TIME 07:27MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	1105.	0.52	0.0

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5729

DATE 11/11/77 TIME 13:55MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
321.	740.	0.61	-1.23

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5739

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5739

DATE 11/15/77 TIME 07:20MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	886.	0.65	0.0

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5735

DATE 11/15/77 TIME 07:40MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	152.	2.99	0.0

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5937

DATE 11/15/77 TIME 14:21MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SFC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-0.58
100.	250.	-0.98
250.	500.	-0.84
500.	750.	-0.74
750.	1000.	-0.75
1000.	1500.	-0.87

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5938

DATE 11/21/77 TIME 07:57MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE INSUFFICIENT DATA WITHIN 2000M OF THE SFC

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5746

DATE 11/21/77 TIME 14:10MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
266.	857.	1.55	-1.65

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5760

DATE 11/23/77 TIME 07:31MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	76.	2.48	0.0

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5758

DATE 11/23/77 TIME 14:07MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SFC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-2.31
100.	250.	-0.48

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5758

DATE 11/23/77 TIME 14:07MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SFC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-2.31
100.	250.	-0.48
250.	500.	-0.40
500.	750.	-0.81
750.	1000.	-1.05
1000.	1500.	-0.83

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5756

DATE 11/27/77 TIME 08:00MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
0.	533.	0.45	0.0

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5754

DATE 11/27/77 TIME 14:01MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

THERE ARE NO INVERSION BASES WITHIN 1500M OF THE SFC

LAYER BASE METERS AGL	LAYER TOP METERS AGL	DT/DZ (DEG C)/100M
0.	100.	-0.70
100.	250.	-0.85
250.	500.	-0.72
500.	750.	-0.92
750.	1000.	-0.82
1000.	1500.	-0.71

****

UTAH UAUB ELEV 1676 METERS SOUNDING ID 5757

DATE 11/29/77 TIME 13:48MST ASCENT RATE 500 FPM DATA INTERVAL 15 SEC.

INV BASE METERS AGL	INV TOP METERS AGL	INV DT/DZ (DEG C)/100M	DT/DZ BELOW INV (DEG C)/100M
281.	395.	0.75	-0.91

MONTH: SEP OCT NOV YEAR: 1977 UTAH LAKE ELEV 1676 METERS

HOLZWORTH'S CLASSIFICATION SCHEME FOR INVERSIONS
MODIFIED TO SHOW TOTAL NUMBER INSTEAD OF PERCENT

THICKNESS (METERS)	SFC	INVERSION BASE HEIGHT (M) 1- 100	101- 250	251- 500	501- 750	751- 1000	1001- 1500	1501- 2000	2001- 2500	2501- 3500	TOTAL
1 - 100	8	3	5	4	2	0	3	0	0	0	21
101 - 250	7	1	2	2	0	0	4	0	0	0	16
251 - 500	10	0	0	1	0	0	0	0	0	0	11
501 - 750	7	1	0	1	0	0	0	0	0	0	9
751 - 1000	3	0	0	0	0	0	0	0	0	0	3
1001 - 1500	1	0	0	0	0	0	0	0	0	0	1
> 1500	0	0	0	0	0	0	0	0	0	0	0
INV TOTAL	32	5	7	8	2	0	7	0	0	0	61
DT/DZ 5		1	0	0	1	0	0	0	0	0	2
FROM INV 4		1	0	1	0	0	1	0	0	0	3
BASE 3		1	2	5	1	0	0	0	0	0	15
TO 2		1	3	3	0	0	0	0	0	0	7
SFC 1		1	2	1	0	0	0	0	0	0	4
NO INV TOT		7	7	7	7	7	7	DT/DZ (DEG C)/100M			
DT/DZ FOR 5		1	0	2	0	0	0	5= 0.00 TO -0.40			
SAME 4		2	2	1	2	1	1	4=-0.41 TO -0.80			
LAYERS 3		0	5	4	5	6	6	3=-0.81 TO -1.20			
AS INV 2		2	0	0	0	0	0	2=-1.21 TO -1.60			
BASE 1		2	0	0	0	0	0	1=<-1.60			

MONTH: SEP OCT NOV YEAR: 1977 UTAH LAKE SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC) 4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	0.0	0.0	0.0	0.0	0.0		0.0
TOTAL	0.0	0.0	0.0	0.0	0.0		0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE A STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 6 SOUNDINGS FROM A SAMPLE OF 69 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA

MONTHS: SEP OCT NOV YEARS: 1977 UTAH DATA SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC) 0-3	4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	0.0	0.0	0.0	0.0	0.0	0.0		0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0		0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE 9 STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 6 SOUNDINGS FROM A SAMPLE OF 69 SOUNDINGS DID NOT HAVE SUFFICIENT TEMP AND WIND DATA

MONTH: SEP OCT NOV YEAR: 1977 UTAH DAUB SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC) 1-3	4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	0.0	0.0	0.0	0.0	0.0	0.0		0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0		0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE C STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 6 SOUNDINGS FROM A SAMPLE OF 69 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA

MONTH: SEP OCT NOV YEAR: 1977 UTAH UAUA SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC) 0-3	4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.03	0.0	0.01	0.0	0.0	0.0	0.9	0.05
ENE	0.0	0.0	0.03	0.03	0.0	0.0	10.0	0.06
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.03	0.0	0.0	0.0	0.0	0.0	1.0	0.03
SE	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.03	0.03	0.09	0.0	0.0	0.0	5.7	0.14
S	0.0	0.03	0.03	0.0	0.0	0.0	5.9	0.06
SSW	0.06	0.05	0.0	0.03	0.0	0.0	4.8	0.11
SW	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.06	0.19	0.0	0.0	0.0	0.0	3.1	0.26
W	0.0	0.03	0.03	0.0	0.0	0.0	6.7	0.06
WNW	0.11	0.06	0.0	0.0	0.0	0.0	2.8	0.17
NW	0.05	0.03	0.0	0.0	0.0	0.0	2.5	0.09
NNW	0.09	0.0	0.03	0.0	0.0	0.0	3.1	0.11
AVG SPEED	1.9	4.4	7.9	11.5	0.0	0.0		0.0
TOTAL	0.46	0.29	0.20	0.06	0.0	0.0		1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE D STABILITY CLASS IS 0.56

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 0 SOUNDINGS FROM A SAMPLE OF 69 SOUNDINGS DID NOT HAVE
500 MB TEMP AND WIND DATA

MONTH: SEP OCT NOV YEAR: 1977 UTAH UAUB SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC) 0-3	4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.01
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.12	0.08	0.0	0.0	0.0	0.0	2.0	0.15
E	0.04	0.0	0.0	0.0	0.0	0.0	1.0	0.04
ESE	0.08	0.04	0.0	0.0	0.0	0.0	2.3	0.12
SE	0.04	0.0	0.0	0.0	0.0	0.0	2.7	0.04
SSE	0.08	0.08	0.0	0.0	0.0	0.0	2.4	0.15
S	0.04	0.04	0.0	0.0	0.0	0.0	5.0	0.08
SSW	0.04	0.04	0.0	0.0	0.0	0.0	3.8	0.08
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.12	0.0	0.0	0.0	0.0	0.0	1.9	0.12
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.19	0.0	0.0	0.0	0.0	0.0	1.4	0.19
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.04	0.0	0.0	0.0	0.0	0.0	0.9	0.04
AVG SPEED	1.5	3.9	0.0	0.0	0.0	0.0		0.0
TOTAL	0.77	0.23	0.0	0.0	0.0	0.0		1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE F STABILITY CLASS IS 0.41

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 6 SOUNDINGS FROM A SAMPLE OF 69 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA

MONTH: SEP OCT NOV YEAR: 1977 UTAH UAUB SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC) 0-3	4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.50	0.0	0.0	0.0	0.0	0.0	1.5	0.50
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.50	0.0	0.0	0.0	0.0	0.0	2.5	0.50
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	2.0	0.0	0.0	0.0	0.0	0.0		0.0
TOTAL	1.00	0.0	0.0	0.0	0.0	0.0		1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE F STABILITY CLASS IS 0.05

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 6 SOUNDINGS FROM A SAMPLE OF 69 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA

MONTH: SEP OCT NOV YEAR: 1977 UTAH UAUB SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC) 0-3	4-6	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.02	0.0	0.0	0.0	0.0	0.0	0.9	0.02
ENE	0.05	0.02	0.02	0.02	0.0	0.0	4.7	0.10
E	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.02
ESE	0.05	0.02	0.0	0.0	0.0	0.0	2.0	0.06
SE	0.02	0.0	0.0	0.0	0.0	0.0	0.7	0.02
SSE	0.06	0.05	0.05	0.0	0.0	0.0	4.0	0.16
S	0.02	0.03	0.02	0.0	0.0	0.0	4.4	0.06
SSW	0.06	0.03	0.0	0.02	0.0	0.0	4.2	0.11
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.08	0.05	0.0	0.0	0.0	0.0	3.2	0.13
W	0.0	0.02	0.02	0.0	0.0	0.0	5.7	0.03
WNW	0.14	0.03	0.0	0.0	0.0	0.0	2.2	0.17
NW	0.03	0.02	0.0	0.0	0.0	0.0	2.5	0.05
NNW	0.06	0.0	0.02	0.0	0.0	0.0	2.6	0.08
AVG SPEED	1.7	4.2	7.9	11.5	0.0	0.0		0.0
TOTAL	0.50	0.25	0.11	0.03	0.0	0.0		1.00

NORMALIZED FREQUENCY DISTRIBUTION INDEPENDENT OF STABILITY

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 6 SOUNDINGS FROM A SAMPLE OF 69 SOUNDINGS DID NOT HAVE 500 M OF TEMP AND WIND DATA